

Ostenso, Nile A - DNR

From: Biebel, Steven J <SJBiebel@integrysgroup.com>
Sent: Wednesday, January 30, 2013 1:31 PM
To: Ostenso, Nile A - DNR
Cc: Metcalf, Mark W
Subject: WPSC Pulliam Hg PMP report
Attachments: 2012 PUL Hg PMP.pdf

Good afternoon Nile,

Please see the attached Mercury Pollutant Minimization Program Plan Annual Status Report for the Wisconsin Public Service Corporation (WPSC) J.P. Pulliam Generating facility. A hard copy of this report is being mailed to you.

Steven J. Biebel

Environmental Consultant - Pulliam | Integrys Business Support, LLC

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Providing support for Integrys Energy Group, Integrys Energy Services, Michigan Gas Utilities, Minnesota Energy Resources, North Shore Gas, Peoples Gas, Upper Peninsula Power Company and Wisconsin Public Service.



Wisconsin Public Service Corporation

Pulliam Plant
1530 North Bylsby Avenue
Green Bay, WI 54303

www.wisconsinpublicservice.com

January 30, 2013

Mr. Nile Ostenso
Wisconsin Department of Natural Resources
101 South Webster Street
Madison, WI 53707

Dear Mr. Ostenso:

Permit No. WI-0000965-08-1
Mercury Pollutant Minimization Program Plan Annual Status Report

Enclosed please find the annual Mercury Pollutant Minimization Program Plan status report for the Wisconsin Public Service Corporation (WPSC) J.P. Pulliam Generating facility. WPSC is submitting this report as described in Condition 5.2 of the WPDES Permit.

Please feel free to call Mr. Mark Metcalf at (920) 433-1833 if you have any questions.

Sincerely,

A handwritten signature in cursive script, reading "Leonard J. Rentmeester".

Leonard J. Rentmeester
General Manager - Pulliam

Cc: Mr. Eric Balstad – WPSC
Mr. Steve Biebel - IBS
Mr. Mark Metcalf - IBS

Mercury Pollutant Minimization Program Plan

Annual Status Report

Wisconsin Public Service Corporation

J.P. Pulliam Power Plant

WPDES Permit # WI-0000965-008-1

January 2013

I. Purpose

This report provides a status of the activities instituted as part of the mercury Pollutant Minimization Program (PMP) for the J.P. Pulliam Power Plant. A mercury PMP was developed to comply with the requirements in WPDES permit (Permit No. WI-0000965-08-1), that was issued on July 1, 2006, and modified on May 2, 2008. A mercury PMP was submitted to the Wisconsin Department of Natural Resources on March 30, 2009.

The goal of the PMP is to conduct a facility wide evaluation of the potential sources of mercury that could result in the discharge of mercury from the facility as a result of plant operations. This review did not include mercury that is due to the ambient conditions of the cooling water system source water (Fox River).

II. Source Identification and Inventory

Instruments and Controls

An inventory of instrument and control devices containing mercury at the Pulliam plant was first conducted in 2009. This effort determined that there was approximately 116 pieces of equipment (switches, relays, thermometers and other instrument and control equipment) that contain mercury at the plant. Since 2009, WPS has been replacing the equipment containing mercury with non-mercury containing equipment when either suitable replacement equipment is available, in conjunction with our equipment upgrade process, or as equipment is replaced for other reasons. An inventory conducted in 2012 determined that there were approximately 65 pieces of mercury containing equipment at the plant. WPS will continue to replace instruments containing mercury as indicated above.

Batteries and Fluorescent Lamps

Fluorescent lamps and batteries are known to contain mercury. To minimize the likelihood of these sources contributing to mercury concentrations in the plant discharge, WPS utilizes the Lamp Tracker™ and Battery Tracker™ programs by Waste Management, Inc., to collect and recycle used fluorescent bulbs and dry cell batteries. In 2012, WPS recycled approximately 329 pounds of fluorescent light bulbs and 225 pounds of dry cell batteries. Recycling practices at the Pulliam Plant will be continued for the proper disposal of used fluorescent lamps and dry cell batteries.

Detergents and Cleaners

In 2010, a companywide chemical procurement process was initiated. The purpose of the process is to assure compliance with the Occupational Safety & Health Administration (OSHA) hazardous communication standard, Wisconsin Administrative Code NR445 Control of Hazardous Air Pollutants, Environmental Protection Agency (EPA) Risk Management Plan (RMP)

requirements, and Department of Homeland Security (DHS) requirements. This process has served as a proactive tool to monitor chemicals purchased for the presence of mercury.

Process Chemicals

Past PMP investigations determined that sodium hydroxide (caustic soda) and sulfuric acid were sources of mercury from process chemicals. While it is possible that other process chemicals contain mercury, a literature search did not reveal the presence of mercury in other process chemicals used at the facility,

In 2010, WPS changed the specifications of the chemicals received at the facility. As a result, WPS has reduced the maximum allowable concentration of mercury in sodium hydroxide delivered to the facility from 0.5 mg/L to 0.002 mg/L, a 99.6% reduction in concentration. WPS will continue to utilize caustic that meets this specification.

III. PMP Implementation

WPS will continue to replace mercury containing equipment through routine and scheduled maintenance. The facility has an established program to reduce the amount of mercury released to the environment through the recycling of fluorescent lamps and dry cell batteries. Chemicals purchased for use at the facility will be screened prior to purchase to determine if mercury is present in a product.



Wisconsin Public Service Corporation

Pulliam Plant
1530 North Bylsby Avenue
Green Bay, WI 54303

www.wisconsinpublicservice.com

January 31, 2012

Mr. Nile Ostenso
Wisconsin Department of Natural Resources
101 South Webster Street
Madison, WI 53707

Dear Mr. Ostenso:

Permit No. WI-0000965-08-1

Mercury Pollutant Minimization Program Plan Annual Status Report

Enclosed please find the annual Mercury Pollutant Minimization Program Plan status report for the Wisconsin Public Service Corporation (WPSC) J.P. Pulliam Generating facility. WPSC is submitting this report as described in the WPDES Permit, Condition 5.2 Schedule of Compliance.

Please feel free to call Mr. Mark Metcalf at (920) 433-1833 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Howard R. Giesler". The signature is fluid and cursive, with the first name "Howard" being the most prominent part.

Howard R. Giesler
Assistant Vice President – Energy Supply Operations

Cc: Mr. Eric Balstad – WPSC
Mr. Steve Biebel - IBS
Mr. Mark Metcalf - IBS

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Mercury Pollutant Minimization Program Plan

Annual Status Report

Wisconsin Public Service Corporation

J.P. Pulliam Power Plant

WPDES Permit # WI-0000965-008-1

January 2012

I. Purpose

This report provides a status of the activities instituted as part of the mercury Pollutant Minimization Program (PMP) for the J.P. Pulliam Power Plant. A mercury PMP was developed to comply with the requirements in WPDES permit (Permit No. WI-0000965-08-1), that was issued on July 1, 2006, and modified on May 2, 2008. A mercury PMP was submitted to the Wisconsin Department of Natural Resources on March 30, 2009.

The goal of the PMP is to conduct a facility wide evaluation of the potential sources of mercury that could result in the discharge of mercury from the facility as a result of plant operations. This review did not include mercury that is due to the ambient conditions of the cooling water system source water (Fox River).

II. Source Identification and Inventory

Instruments and Controls

An inventory of mercury containing instrument and control devices at the Pulliam plant was conducted in 2009. This effort determined that there was approximately 5.8 pounds of mercury present in switches, relays, thermometers and other instrument and control equipment at the plant. Since 2009, WPS has been replacing the equipment containing mercury with new non-mercury containing equipment. WPS will continue to replace instruments containing mercury when suitable replacement equipment is available, in conjunction with our equipment upgrade process or as equipment is replaced for other reasons.

Batteries and Fluorescent Lamps

Fluorescent lamps and batteries are known to contain mercury. To minimize the likelihood of these sources contributing to mercury concentrations in the plant discharge, WPS utilizes the Lamp Tracker™ and Battery Tracker™ programs by Waste Management, Inc., to collect and recycle used fluorescent bulbs and dry cell batteries. In 2011, WPS recycled approximately 350 pounds of fluorescent light bulbs and 235 pounds of dry cell batteries. Recycling practices at the Pulliam Plant will be continued for the proper disposal of used fluorescent lamps and dry cell batteries.

Detergents and Cleaners

In 2010, a companywide chemical procurement process was initiated. The purpose of the process is to assure compliance with the Occupational Safety & Health Administration (OSHA) hazardous communication standard, Wisconsin Administrative Code NR445 Control of Hazardous Air Pollutants, Environmental Protection Agency (EPA) Risk Management Plan (RMP) requirements, and Department of Homeland Security (DHS) requirements. This process has served as a proactive tool to monitor chemicals purchased for the presence of mercury.

Process Chemicals

Past PMP investigations determined that sodium hydroxide (caustic soda) and sulfuric acid were sources of mercury from process chemicals. While it is possible that other process chemicals contain mercury, a literature search did not reveal the presence of mercury in other process chemicals used at the facility,

In 2010, WPS contacted the vendor who supplies sodium hydroxide and sulfuric acid to the facility to request a change in the specifications of the chemicals received at the facility. As a result, WPS has reduced the maximum allowable concentration of mercury in sodium hydroxide delivered to the facility from 0.5 mg/L to 0.002 mg/L, a 99.6% reduction in concentration. The specification for sulfuric acid remains unchanged at 1.0 mg/l Hg. WPS will continue to utilize caustic and sulfuric acid that meets these specifications.

III. PMP Implementation

WPS will continue to replace mercury containing equipment through routine and scheduled maintenance. The facility has an established program to reduce the amount of mercury released to the environment through the recycling of fluorescent lamps and dry cell batteries. Chemicals purchased for use at the facility will be screened prior to purchase to determine if mercury is present in a product.



Wisconsin Public Service Corporation

700 North Adams Street
P.O. Box 19001
Green Bay, WI 54307-9001

www.wisconsinpublicservice.com

January 27, 2011

Mr. Nile Ostenso
Wisconsin Department of Natural Resources
101 South Webster Street
Madison, WI 53707

Dear Mr. Ostenso:

Permit No. WI-0000965-08-1

Mercury Pollutant Minimization Program Plan Annual Status Report

Enclosed please find the annual Mercury Pollutant Minimization Program Plan status report for the Wisconsin Public Service Corporation (WPSC) J.P. Pulliam Generating facility. WPSC is submitting this report as described in the WPDES Permit, Condition 5.2 Schedule of Compliance.

Please feel free to call Mr. Mark Metcalf at (920) 433-1833 if you have any questions.

Sincerely,

Howard R. Giesler
Assistant Vice President – Energy Supply Operations

Cc: Mr. Terry Jensky – WPSC
Mr. Kyle Hoops – WPSC
Mr. Randal Oswald – IBS
Mr. Steve Biebel - IBS
Mr. Mark Metcalf - IBS

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Mercury Pollutant Minimization Program Plan

Annual Status Report

Wisconsin Public Service Corporation

J.P. Pulliam Power Plant

WPDES Permit # WI-0000965-008-1

January 2011

I. Purpose

This report provides a status of the activities instituted as part of the mercury Pollutant Minimization Program (PMP) for the J.P. Pulliam Power Plant. A mercury PMP was developed to comply with the requirements in WPDES permit (Permit No. WI-0000965-08-1), that was issued on July 1, 2006, and modified on May 2, 2008. A mercury PMP was submitted to the Wisconsin Department of Natural Resources on March 30, 2009.

The goal of the PMP is to conduct a facility wide evaluation of the potential sources of mercury that could result in the discharge of mercury from the facility as a result of plant operations. This review did not include mercury that is due to the ambient conditions of the cooling water system source water (Fox River).

II. Source Identification and Inventory

Instruments and Controls

An inventory of mercury containing instrument and control devices at the Pulliam plant was conducted in 2009. This effort determined that there was approximately 5.8 pounds of mercury present in switches, relays, thermometers and other instrument and control equipment at the plant. Since 2009, WPSC has been replacing the equipment containing mercury with new non-mercury containing equipment. In the future, we will continue to replace instruments containing mercury when suitable replacement equipment is available, in conjunction with our equipment upgrade process or as equipment is replaced for other reasons.

Batteries and Fluorescent Lamps

Fluorescent lamps and batteries are known to contain mercury. To minimize the likelihood of these sources contributing to mercury concentrations in the plant discharge, WPSC utilizes the Lamp Tracker™ and Battery Tracker™ programs by Waste Management, Inc., to collect and recycle used fluorescent bulbs and dry cell batteries. Current recycling practices at the Pulliam Plant will be continued for the proper disposal of used fluorescent lamps and dry cell batteries.

Detergents and Cleaners

A material safety data sheet (MSDS) literature search was conducted in 2009 on detergents and cleaning solutions used at the Pulliam Plant. Regulatory information listed on the MSDS was used to determine if mercury is present (if known) in a specific cleaner or detergent. A literature search of cleaning products did not discover any sources of mercury from detergents or cleaning products.

In 2010, a company wide chemical procurement process was initiated. The purpose of the process is to assure compliance with the Occupational Safety & Health Administration (OSHA) hazardous communication standard, Wisconsin Administrative Code NR445 Control of Hazardous Air Pollutants, Environmental Protection Agency (EPA) Risk Management Plan

(RMP) requirements, and Department of Homeland Security (DHS) requirements. This process will serve as a proactive tool to monitor chemicals purchased for the presence of mercury.

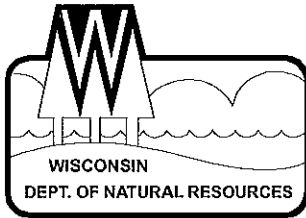
Process Chemicals

A literature search on the process chemicals used at the facility determined two chemicals contain mercury: sodium hydroxide (caustic soda) and sulfuric acid. While it is possible that other process chemicals contain mercury, a literature search did not discover other mercury information. Sodium hydroxide and sulfuric acid are used to regenerate the facility demineralizer system.

In 2010, WPSC contacted the vendor who supplies sodium hydroxide and sulfuric acid to the facility to request a change in the specifications of the chemicals received at the facility. As a result, WPSC has reduced the maximum allowable concentration of mercury in sodium hydroxide delivered to the facility from 0.5 mg/L to 0.002 mg/L, a 99.6% reduction in concentration. The specification for sulfuric acid remains unchanged at 1.0 mg/l Hg.

III. PMP Implementation

WPSC will continue to replace mercury containing equipment through routine and scheduled maintenance. The facility has an established program to reduce the amount of mercury released to the environment through the recycling of fluorescent lamps and dry cell batteries. Chemicals purchased for use at the facility will be screened prior to purchase to determine if mercury is present in a product.



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor
Matthew J. Frank, Secretary

101 South Webster Street
P.O. Box 7921
Madison, WI 53707-7921
Telephone (608) 266-2621
FAX (608) 267-3579
TTY Access via relay - 711

June 22, 2009

Howard Giesler
Assistant Vice President – Energy Supply Operations
Wisconsin Public Service Corp Pulliam
PO Box 19001
Green Bay, WI 54307--9001

SUBJECT: WPDES Permit WI-0002810-07
Mercury Pollutant Minimization Program

Dear Mr. Giesler:

Thank you for WPSC-Pulliam's mercury pollutant minimization program plan that was submitted March 31, 2009. The three proposed components of the mercury PMP are acceptable, and we're pleased WPSC is proactive in reducing mercury sources at the generating facility. The plan consists of the following:

- Source identification and inventory of mercury containing equipment.
- Improvement of operation, maintenance or management practices to reduce mercury.
- Annual status report, with the first report by January 31, 2010 and annually thereafter.

The source identification and operation evaluation for improvements will be completed in 2009. Depending on the outcome, a time table for implementation of improvements will result. The first annual report is due January 31, 2010 and would include a timetable for continued activities based on the 2009 findings. This would likewise include the measures for determining improvements.

Your PMP is acceptable and we look forward to learning of your developments.

If you have any questions please call me at 608-266-9239 or email "nile.ostenso@dnr.state.wi.us".

Sincerely,

Nile Ostenso, P.E.
Water Resources Engineer
Wastewater Section, Bureau of Watershed Management

cc: Permit File – Region and Central Office
Gary Kincaid - NER

dnr.wi.gov
wisconsin.gov





Wisconsin Public Service Corporation
700 North Adams Street
P.O. Box 19001
Green Bay, WI 54307-9001
www.wisconsinpublicservice.com

March 30, 2009

Mr. Nile Ostenso
Wisconsin Department of Natural Resources
101 South Webster Street
Madison, WI 53707

Dear Mr. Ostenso:

Mercury Pollutant Minimization Program Plan

Enclosed please find the Wisconsin Public Service Corporation (WPSC) Mercury Pollutant Minimization Program Plan for the J.P. Pulliam Generating facility for Department review. WPSC is submitting this plan as described in the WPDES Permit, Condition 5.2 Schedule of Compliance (WPDES Permit No. WI-0000965-08-1).

In accordance with the facilities WPDES permit, WPSC will implement the Mercury Pollutant Minimization Program Plan by December 31, 2009. An Annual Status Report will be submitted to the Department by January 31, 2010, and annually thereafter until the report is no longer required by a WPDES permit.

Please feel free to call Mr. Mark Metcalf at (920) 433-1833 if you have any questions.

Sincerely,

A handwritten signature in dark ink, appearing to read "Howard R. Giesler".

Howard R. Giesler
Assistant Vice President – Energy Supply Operations

Cc: Mr. Terry Jensky – WPSC
Mr. Kyle Hoops – WPSC
Mr. Randal Oswald – IBS
Mr. Steve Biebel - IBS
Mr. Mark Metcalf - IBS

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MAR 31 2009

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A. Purpose

The purpose of this plan is to develop a mercury Pollutant Minimization Program (PMP) to comply with the requirements in NR 106.145(7) and the Wisconsin Pollutant Discharge Elimination System (WPDES) Permit issued to the J.P. Pulliam Power Plant on July 1, 2006 (Permit No. WI-0000965-08-1).

B. Background

Pursuant to the WPDES Permit, specifically Condition 5.2, Mercury Pollutant Minimization Program, for the J.P. Pulliam Generating Facility, Wisconsin Public Service Corporation (WPSC) has monitored the concentration of mercury in the facility's wastewater discharge at Outfall 001 (main plant discharge). The resulting data has been provided to the Wisconsin Department of Natural Resources (WDNR) for a determination of the need for a mercury effluent limitation in the facility's WPDES permit. A preliminary determination from WDNR indicated that an effluent limitation *may* be necessary. As a result of this determination, WPSC is required to submit a Mercury Pollutant Minimization Program Plan to the WDNR by March 31, 2009.

In addition, the Great Lakes Initiative identifies the minimum water quality standards, anti-degradation policies, and implementation procedures for any discharge within the Great Lakes Basin. As of March 23, 2007, a discharge permit may not authorize a "no net addition limitations" for pollutants. Permits issued on or after November 15, 2010 shall not authorize mixing zones for existing discharges of bio-accumulative toxics of concern (BCCs), with a few exceptions. To address each of these regulatory requirements, WPSC will be implementing a mercury pollutant minimization program focused on reducing the amount of mercury present in the facility's discharge.

C. Goal of PMP

The goal of the PMP is to conduct a facility wide evaluation of the potential sources of mercury that could result in the discharge of mercury from the facility as a result of plant operations. This review will not include mercury that is due to the ambient conditions of the source water. Once these sources are identified the facility will be implementing reasonable, cost-effective solutions to reduce the facility's discharge of mercury in the plants' wastewater discharge.

The Pulliam plant discharges mercury, a BCC, to the Great Lakes system and is subject to the provisions of the Great Lakes Initiative and the WPDES permit program. WPSC will use the PMP as a tool to achieve compliance with these regulations.

D. Mercury Minimization Program Contents

Source Identification and Inventory

The first phase of the program will be to identify all potential sources of mercury which could lead to a discharge of mercury into the plants wastewater treatment facility. Source identification will include, but is not limited to, an evaluation of plant process chemicals, fuel sources, and waste streams that contribute to the waste water discharge from the facility. In-plant waste stream monitoring may be necessary to identify and quantify the location and amount of mercury present in a waste stream prior to treatment and discharge. WPSC will also conduct a facility inventory of mercury containing equipment and review the potential for a spill from a piece of mercury containing equipment to enter the facility's wastewater stream. The following is a list of sources potentially found at industrial facilities that will be addressed:

- Batteries
- Boiler Chemicals
- Detergents and cleaners
- Lamps and fluorescent lamps
- Process chemicals, such as acids and bases
- Switches and relays
- Thermo-electric devices
- Thermometers
- Thermostat probes

Aside from the fuel combusted at the facility, process chemicals are the next primary source of mercury that could introduce mercury into the discharge. As part of the source identification process, WPSC will contact the manufacturers of the process chemicals to obtain product specifications detailing incidental metal concentrations. This information will be obtained specifically for boiler additives, demineralizer chemicals, anti-biofouling system chemicals, and wastewater treatment chemicals as these chemicals are most commonly used at the facility and can end up in the facility's wastewater.

Improvement of Operational, Maintenance or Management Practices

Upon completion of the source identification and inventory phase, WPSC will evaluate options for operational, maintenance, or management practices that would result in the reduction of mercury in the facility's discharge. Examples of operational, maintenance, or management practices to be evaluated include changes in plant processes or wastewater treatment equipment, planned reductions in chemical usage, and the identification and substitution of raw materials or chemicals/chemical additives with low-mercury content alternatives.

Part of the PMP will be to investigate available technologies for the removal of mercury from waste water treatment facilities. A literature search will be conducted to obtain specific information on the available technologies, technology efficiencies and cost-effectiveness. This information will then be used to determine their feasibility for the Pulliam facility.

E. Program Implementation

Initiation of the source identification and inventory phase will begin in the second quarter 2009. WPSC intends to complete the source inventory by during the summer 2009, and complete an evaluation of potential operational improvements, chemical substitution, reductions in chemical usage, or physical changes at the facility by end of year 2009. A timeline for implementation of operational or physical changes at the facility as a result of this program will depend on the extent of the activities to be implemented.

F. Past Mercury Reduction Activities

Operational changes at the Pulliam plant have already resulted in a reduction of mercury in the facility's discharge. The retirement of Units 3 and 4 on December 31, 2007 has resulted in a reduction of the amount of chemicals used at the facility, and has reduced the amount of coal ash being treated in the facility's waste water treatment system.

WPSC has also taken action to remove mercury containing equipment from service when possible. Mercury containing switches, relays, or other operating equipment continues to be replaced with non-mercury containing parts as allowed through normal maintenance and upon equipment failure.

F. Documentation

All investigative activities shall be documented to retain an accurate record of these activities including an inventory of potential mercury sources.

G. Annual Review

On an annual basis, WPSC will review the Mercury PMP. The review will be used to evaluate progress of the PMP at reducing mercury in the facility's discharge. WPSC will provide information on the progress of the PMP in the Annual Status Report to the Department by January 31st, 2010 and annually thereafter.